
New Taxa, New Combinations, and Notes on Chinese Gesneriaceae

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ABSTRACT. Preparation of the Gesneriaceae for the *Flora of China* has revealed new taxa, including one new genus, *Paraisometrum*; thirteen new species, *Chirita atroglandulosa*, *C. napoensis*, *C. pungentisepala*, *C. pycnantha*, *C. shouchengensis*, *C. shuii*, *C. skogiana*, *C. wangiana*, *Didymocarpus subpalmatinervis*, *Hemiboea wangiana*, *Opithandra burttii*, *Oreocharis dentata*, *Paraisometrum mileense*; and seven new combinations, *Chirita demissa*, *Hemiboea subcapitata* var. *guangdongensis*, *Lysionotus microphyllus* var. *omeiensis*, *Lysionotus pauciflorus* var. *ikedae*, *Oreocharis aurea* var. *cordato-ovata*, *Paraboea glutinosa*, and *Tengia scopulorum* var. *potiflora*. The new taxa are described, discussed, and compared with related taxa. The transfer and status changes are justified.

As a preface to the treatment of Gesneriaceae for the *Flora of China*, it seems worthwhile to make a brief introduction to the terminology used in the treatment. First, the use of "one vs. two stigmas": Each carpel of the bicarpellate ovary in flowers of Gesneriaceae may produce a stigma. These two stigmas are more or less fused into a single structure from the base, but are, to some degree, free at the apex in some genera, e.g., *Chirita* Buchanan-Hamilton, and often further bilobed. Non-Chinese specialists on Gesneriaceae have traditionally considered the stigma to be a single structure and to be either simple (capitate) or bilobed, whereas Chinese botanists consider each of the two stigmas as units following the early study of stigmas in *Chirita* by Robert Brown (1839). The distinction can be blurred, however, because the two stigmas may be completely fused into one with a capitate apex (then sometimes referred to as terminal, as in *Didymocarpus* Wallich) or the upper of the two carpels or stigmas may be aborted resulting in a single stigma which is often bilobed (see also Burtt, 1992). In the treatment of Gesneriaceae for the *Flora of China*, Chinese usage is maintained, but a family-wide in-

vestigation of stigma development and fusion is needed for clarification.

In delimiting genera of Gesneriaceae for the upcoming treatment, emphasis is placed on ease of use rather than phylogeny. In other words, genera are recognized and delimited, in part, for convenience in key-making in the judgment of Wang Wen-tsai, the senior author of the treatment for the *Flora of China*. Nevertheless generic limits are sometimes very difficult to discern. For example, *Didymocarpus* and *Chirita* overlap in nearly all characters, and the only character that consistently distinguishes them is stigma position (abaxial in *Chirita* and terminal in *Didymocarpus*), which can be difficult to see on dried specimens. Similarly, *Oreocharis* Benth., *Ancylostemon* Craib, *Tremacron* Craib, and *Isometrum* Craib can only be distinguished in flowering condition. Further, even those characters used to distinguish them are intermediate in some species. The result of using these characters alone is that groups of taxa that are most similar vegetatively are spread across all four genera. Similarly, *Briggsia* Craib and *Loxostigma* C. B. Clarke are placed in radically different parts of the family in the *Flora of China* based on a single character, seed appendage. However, there are species in the two genera that are nearly indistinguishable in vegetative and floral characters.

Generic limits and phylogenetic relationships in Asian Gesneriaceae are not well understood, and that lack of knowledge is reflected in the *Flora of China* treatment.

Chirita atroglandulosa W. T. Wang, sp. nov.
(*Chirita* sect. *Gibbosaccus* C. B. Clarke).
TYPE: China. Guangxi: Longzhou, on cliffs, H. B. Morse 471 (holotype, NY).

Herba perennis. Rhizoma obconicum, 0.9–1.2 cm longum, ca. 1 cm crassum. Folia omnia basalia ca. 12; laminae chartaceae, anguste ellipticae vel anguste ovatae, 2–7.5 cm longae, 0.8–2.8 cm latae, apice acutae, basi cu-

neatae, margine subintegrae vel repandae, utrinque dense adpresseque puberulae, supra pilis 0.8–1.1 mm longis et 0.15–0.5 mm longis tectae, nervis lateralibus utrinsecus 3 inconspicuis; petioli complanati, 0.2–1.4 cm longi, 2–4 mm lati, utrinque adpresse puberuli. Cymae ca. 2, axillares, bis ramosae, ca. 5-florae; pedunculi 12–13 cm longi, patule puberuli; bractae oppositae, ovatae vel anguste ovatae, 6.5–7 mm longae, 2.5–3 mm latae, utrinque dense adpresseque puberulae; pedicelli 0.3–1.8 cm longi, dense puberuli et glanduloso-puberuli. Calyx prope basin 5-sectus, segmentis anguste triangular-lanceolatis, 4–5 mm longis, 1–1.1 mm latis, utrinque adpresse puberulis. Corolla ca. 3 cm longa, extus sparse puberula, intus prope basin labii superi et infra filamenta puberula; tubo infundibuliformi-tubulari, ca. 2 cm longo, ore 1 cm diam.; labio supero ca. 4 mm longo, 2-lobato, lobis late ovatis, labio infero ca. 10 mm longo, prope medium 3-fido, lobis orbiculari-ovatis. Stamina cum staminodiis 10 mm supra basin corollae adnata; filamentis lineari-subulatis, ca. 9 mm longis, prope medium geniculatis, basi et supra medium atro-glanduloso-puberulis; antheris reniformi-oblongis, ca. 3 mm longis, glabris; staminodia 2, lineari-subulata, ca. 3 mm longa, apice saepe capitata, glabra. Discus annularis, ca. 0.4 mm altus. Pistillum ca. 15 mm longum; ovario lineari, ca. 9 mm longo, 1 mm lato, dense adpresseque puberulo; stylo ca. 3 mm longo, glabro; stigmatibus anguste oblongo, ca. 2 mm longo, apice emarginato.

Herbs perennial, stemless. Rhizome 0.9–1.2 × ca. 1 cm. Leaves basal, ca. 12; petiole flattened, 0.2–1.4 × 0.2–0.4 cm, appressed puberulous on both sides; lamina chartaceous, narrowly elliptic to narrowly ovate, 2–7.5 × 0.8–2.8 cm, both surfaces densely appressed puberulous, adaxial hairs 0.8–1.1 and 0.15–0.5 mm; base cuneate, margin subentire to repand, apex acute; lateral veins ca. 3 pairs, inconspicuous. Cymes 2–3, axillary, 2 × branched, ca. 5-flowered; peduncle 12–13 cm, spreading puberulous; bracts 2, free, opposite, ovate to narrowly ovate, 6.5–7 × 2.5–3 mm, both surfaces densely appressed puberulous; pedicel 0.3–1.8 cm, densely puberulous and glandular puberulous. Calyx 5-sect to near base, segments narrowly triangular-lanceolate, 4–5 × 1–1.1 mm, both surfaces appressed puberulous, margin entire, apex acute. Corolla ca. 3 cm, outside sparsely puberulous, inside puberulous near base of upper lip and below filaments; tube funnelform-tubular, ca. 2 cm, mouth ca. 1 cm diam.; upper lip ca. 4 mm, 2-lobed, lobes broadly ovate; lower lip ca. 10 mm, 3-lobed to near middle, lobes orbicular-ovate. Stamens and staminodes adnate to ca. 10 mm above corolla tube base; filaments linear-subulate, ca. 9 mm, geniculate near middle, black glandular-puberulous above middle; anthers fused by entire adaxial surfaces, reniform-oblong, ca. 3 mm, glabrous; staminodes 2, linear-subulate, ca. 3 mm, apex often capitate, glabrous. Disc annular, ca. 0.4 mm. Pistil ca. 15 mm; ovary linear, ca. 9 × 1 mm, densely appressed pu-

berulous; style ca. 3 mm, glabrous; stigma narrowly oblong, ca. 2 mm, apex emarginate.

This species is related to *Chirita eburnea*, from which it differs in smaller leaf blades, bracts, and calyces, stamen filaments with black glandular hairs, glabrous staminodes, and an emarginate stigma. In *C. eburnea*, the leaf blade is up to 17 cm long, bracts are 1–4.5 cm long, the calyx is 0.9–1 cm long, filaments are merely glandular puberulous, the staminode is pilose, and the stigma is 2-lobed. Other specimens seen collected by Morse with the same number are *Chirita eburnea*.

Chirita demissa (Hance) W. T. Wang, comb. nov.

Basionym: *Didymocarpus demissus* Hance, as “*demissa*,” J. Bot. 21: 166. 1883. TYPE: China. Guangdong: on rocks near Sai-gnau on the Lien-chau river, 210 m, 5 Oct. 1881, B. C. Henry in Herb. Hance 22142 (holotype, BM; isotype, K not seen).

This species is transferred from *Didymocarpus* to *Chirita*, because the stigma is abaxial and oblong. This may be due to abortion of the adaxial stigma. In *Didymocarpus*, the stigma is terminal and capitate or discoid in shape, probably formed by fusion of the adaxial and abaxial stigmas.

Chirita napoensis Z. Y. Li, sp. nov. (*Chirita* sect. *Gibbosaccus*). TYPE: China. Guangxi: Napo, Longhua, ad scopulos in vallis, 600 m, 12 May 1989, Exped. Hongshuihe. Inst. Bot. Austrosin. Acad. Sin. 689 (holotype, PE; isotype, IBSC).

Herba perennis. Rhizoma ca. 0.5 mm longum, ca. 0.6 mm crassum. Folia 4–10, omnia basalia, petiolata; laminae in sicco papyraceae, late ellipticae vel oblongae, 2.5–4.2 cm longae, 1–3 cm latae, apice obtusiusculae, basi oblique cuneatae, decursivae, margine crenatae vel repando-crenatae, utrinque pilis albis adpressis dense tectae, nervis lateralibus utrinsecus 3–4 inconspicuis; petioli 1–1.7 cm longi, complanati, dense puberuli. Scapi 2–7, ascendentes, 2.5–6.5 cm alti, cum pedicellis dense puberulis; cymae 1–2-florae; bractae oppositae, anguste oblongae, 1.5–3.5 mm longae. Calyx ad basin 5-sectus, segmentis viridibus, lanceolato-linearibus, 2.5–3 mm longis, 0.7–0.9 mm latis, extus puberulis, intus pilosellis. Corolla subcampanulata, coeruleo-lilacina, ca. 1.4 cm longa, extus puberula et glanduloso-puberula, intus glabra; tubo subtubulari, ca. 8.5 mm longo, ore ca. 4 mm diam.; labio postico ca. 2 mm longo, ad basin 2-secto, lobis semiorbicularibus, labio antico ca. 5.5 mm longo, prope medium 3-lobato, lobis suborbicularibus. Stamina 2, filamentis ad ca. 7 mm supra corollae basin insertis, subulato-linearibus, ca. 4 mm longis, inferne ca. 1 mm superne ca. 0.4 mm latis, supra basin geniculatis, glabris; antheris ca. 3 mm longis, glabris; staminodia 2, ad ca. 6.5 mm supra corollae basin inserta, anguste linearia, ca. 0.7 mm longa, glabra. Discus nullus. Pistillum ca. 13 mm

longum, ovario lineari, ca. 3 mm longo 0.4 mm lato, stigmatate anguste oblongo 1.2 mm longo indiviso. Capsulae juvenales lineares, ca. 1.5 cm longae, 1.2 mm crassae, dense puberulae.

Herb, perennial, stemless. Rhizome ca. 0.5 mm, ca. 0.6 mm diam. Leaves 4–10, basal; petiole 1–1.7 cm, flattened, densely puberulous; leaf blade broadly elliptic to oblong, $2.5\text{--}4.2 \times 1\text{--}3$ cm, papery when dry, both surfaces densely appressed white pilose; base oblique, cuneate, decurrent; margins crenate to repand crenate; apex minutely obtuse; lateral veins 3–4 pairs, inconspicuous. Cymes 2–7, ascending, 2.5–6.5 cm, 1–2-flowered; bracts 2, opposite, narrowly oblong, 1.5–3.5 mm. Calyx 5-sect, segments green, lanceolate-linear, $2.5\text{--}3 \times 0.7\text{--}0.9$ mm, outer surface puberulous, inner pilose. Corolla blue-violet, subcampanulate, ca. 1.4 cm, outer surface puberulous and glandular puberulous, inner glabrous; tube subtubular, ca. 8.5 mm, mouth ca. 4 mm diam.; upper lip 2-sect, ca. 2 mm, lobes semiorbicular; lower lip 3-lobed to near middle, ca. 5.5 mm, lobes suborbicular. Stamens 2, adnate to corolla tube for ca. 7 mm, filaments subulate-linear, ca. 4×1 (near base) and 0.4 (above) mm, geniculate above base, glabrous; anthers ca. 3 mm, glabrous. Staminodes 2, adnate to corolla tube for ca. 6.5 mm, linear, ca. 0.7 mm, glabrous. Disc absent. Pistil ca. 1.3 cm, densely puberulous; ovary linear, ca. 3×0.4 mm; stigma narrowly oblong, ca. 1.2 mm, entire. Immature capsule linear, ca. 15×1.2 mm, densely puberulous.

Distribution and ecology. Plants of this species are found only in the province of Guangxi, in Napo, at Longhua, on a cliff in a valley, at 600 m elevation, apparently flowering in May.

Chirita pungentisepala W. T. Wang, sp. nov. (*Chirita* sect. *Gibbosaccus*). TYPE: China. Guangxi: Longzhou, H. B. Morse 196 (holotype, K).

Herba perennis. Rhizoma subteres, ca. 6 mm crassum. Folia omnia basalia, ca. 9; laminae chartaceae, anguste ellipticae, 3.5–8.5 cm longae, 1–2.5 cm latae, apice acutae, basi attenuatae, margine integrae, supra pilis 1–1.8 mm longis et 0.3–0.5 mm longis dense tectae, subtus dense puberulae, nervis lateralibus utrinsecus ca. 5, inconspicuis; petioli complanati, 0.8–2.8 cm longi, 3–5 mm lati, dense adpresseque pubescenti. Cymae ca. 2, axillares, semel vel bis ramosae, 2–4-florae; pedunculi 5–7.8 cm longi, patule puberuli et glanduloso-puberuli; bracteae oppositae, triangulari-lineares, 5–13 mm longae, ca. 1.6 mm latae, pubescentes; pedicelli 2.7–5 cm longi, glanduloso-puberulosi et pilosi. Calyx ad basin 5-sectus, segmentis anguste triangulari-linearibus, ca. 6 mm longis, 1.2 mm latis, apice subulati-acuminatis, extus pubescentibus, intus glabris. Corolla ca. 3.5 cm longa, extus sparse adpresseque puberula, intus infra filamenta pilosa; tubo infundibuliformi-tubulari, ca. 2.5 cm longo, ore 1 cm diam.;

labio supero ca. 5 mm, 2-lobato, lobis late ovatis, labio infero ca. 10 mm longo, 3-lobato, lobis orbiculari-ovatis. Stamina cum staminodiis ca. 10 cm supra basin corollae adnata, glabra; filamentis lanceolato-linearibus, 13 mm longis, supra medium arcuato-curvatis; antheris oblongis, ca. 3 mm longis; staminodia 2, anguste lanceolato-linearibus, 7–8 mm longis, glabris, apice saepe capitatis. Discus annularis, ca. 0.6 mm altus. Pistillum ca. 2.2 cm longum; ovario lineari, ca. 14 mm longo, 1.6 mm lato, dense glanduloso-puberulo; stylo sparse glanduloso-puberulo; stigmatate suboblongo ca. 1.5 mm longo, apice 2-lobulato.

Herbs, perennial, stemless. Rhizome subterete, ca. 6 mm diam. Leaves basal, ca. 9; petiole flattened, $0.8\text{--}2.8 \times 0.3\text{--}0.5$ cm, densely appressed pubescent; leaf blade narrowly elliptic, $3.5\text{--}8.5 \times 1\text{--}2.5$ cm, papery; upper surface densely appressed pilose, hairs 1–1.8 and 0.3–0.5 mm, lower surface densely puberulous; base attenuate, margin entire, apex acute; lateral veins ca. 5 pairs, inconspicuous. Cymes ca. 2, axillary, 1 or 2 \times branched, 2–4-flowered; peduncle 5–7.8 cm, spreading puberulous and glandular puberulous; bracts 2, opposite, triangular-linear, $5\text{--}13 \times$ ca. 1.5 mm, pubescent; pedicel 2.7–5 cm, glandular puberulous and pilose. Calyx 5-sect to base, segments narrowly triangular-linear, ca. 6×1.2 mm, outer surface pubescent, inner surface glabrous, margin entire, apex subulate acuminate. Corolla ca. 3.5 cm, outer surface sparsely appressed puberulous, inner surface pilose below filaments; tube funnelform-tubular, ca. 2.5 cm, mouth ca. 1 cm diam.; upper lip ca. 5 mm, 2-lobed, lobes broadly ovate; lower lip ca. 10 mm, 3-lobed, lobes orbicular-ovate. Stamens and staminodes adnate to ca. 10 mm above base of corolla tube; stamens glabrous, filaments lanceolate-linear, ca. 13 mm, arcuate above middle; anthers fused by entire adaxial surfaces, oblong, ca. 3 mm; staminodes 2, narrowly lanceolate-linear, 7–8 mm, glabrous, apex often capitate. Disc annular, ca. 0.6 mm. Pistil ca. 2.2 cm, ovary linear, ca. 14×1.6 mm, densely glandular puberulous; style sparsely glandular puberulous; stigma suboblong, ca. 1.5 mm, apex 2-lobed. Fruits and seeds unknown.

This species may be related to *Chirita bicolor*, from which it is distinguished by its abaxially puberulous leaf blade, longer pedicel, subulate-acuminate calyx segments, and glabrous anthers. In *C. bicolor*, the leaf blade is velutinous abaxially, the pedicel is shorter, 6–12 mm, the calyx segment apex is obtuse, and the anthers are dorsally brown barbate. Other specimens seen collected by Morse with the same number are *Chirita linearifolia* W. T. Wang.

Chirita pycnantha W. T. Wang, sp. nov. (*Chirita* sect. *Chirita*). TYPE: China. Yunnan: Simao, A. Henry 13575 (holotype, NY; isotype, K).

Herba perennis (?). Caules 2.2–9 cm alti, 1–1.5 mm crassi, glabri, simplices, 1-foliati. Folia basalia nulla. Folium caulinum longe petiolatum; lamina papyracea, leviter inaequilateralis, ovata, 4–9 cm longa, 2.1–5.4 cm lata, apice acuta, basi subtruncata vel uno latere rotundato-truncata altero latere cuneata, margine crenata, ciliolata, supra sparse puberula, subtus ad nervos sparse puberula, nervis lateralibus utrinsecus 7–8; petioli 1.8–9 cm longi, sparsissime puberuli. Cyma fere terminalia, saepe subglobosa, 1.5–2.8 cm diam., dense 2–6 flora; pedunculus 0.5–6 cm longus, glaber; bracteae depresso semiorbiculares, 5–7 mm longae, 10–20 mm latae, glabrae; pedicelli robusti, ca. 1.8 mm longi. Calyx ca. 1.3 cm longus, 5-lobatus, glaber, lobis deltoideis ca. 4 mm longis, 4.8 mm latis. Corolla ca. 3.2 cm longa, glabra; tubo infundibuliformi, ca. 3 cm longo, ore 1.8 cm diam.; labio supero ca. 2 mm longo, 2-lobato, labio infero ca. 4 mm longo, 3-lobato, lobis depresso semiorbicularibus. Stamina cum staminodiis ca. 14 mm supra basin corollae adnata; filamentis lineari-subulatis, ca. 9 mm longis, prope medium geniculatis, minute glandulosis; antheris oblongis, 3 mm longis, glabris; staminodia 2, linearia, 4–5.5 mm longa, glabra, apice paulo dilatata. Discus annularis, ca. 0.8 mm altus. Pistillum ca. 2.9 cm longum, sparse minute adpressequer puberulum; ovario lineari, ca. 1.7 cm longo, 1.5 mm lato; stylo 9 mm longo; stigmatibus ambitu flabellato, ca. 3 mm longo, 5 mm lato, fere ad basin 2-partito, lobis anguste oblongis.

Herbs, probably perennial. Stem simple, 2.2–9 cm × 1–1.5 mm, glabrous. Leaves 1–3, cauline; petiole 1.8–9 × 0.1–0.2 cm, sparsely puberulous; leaf blade slightly oblique, ovate, 4–9 × 2.1–5.4 cm, papery, adaxially sparsely puberulous, abaxially sparsely puberulous on veins; base cuneate to truncate-rounded, margin crenate, ciliate, apex acute; lateral veins 7–8 pairs, conspicuous. Cymes 1 or 2, subglobose, 1.5–2.8 cm diam., densely 2–6-flowered; peduncle 0.5–6 cm, glabrous; bracts depressed semiorbicular, 5–7 × 10–20 mm, glabrous, margin subentire, apex truncate-rounded. Pedicel robust, ca. 1.8 mm, glabrous. Calyx ca. 1.3 cm, tube ca. 0.9 cm, 5-lobed to above middle, lobes equal, deltoid, ca. 4 × 4.8 mm, both surfaces glabrous, margin entire, apex acute. Corolla ca. 3.2 cm, both sides glabrous, tube infundibuliform, ca. 3 cm, mouth ca. 1.8 cm diam., upper lip ca. 2 mm, 2-lobed, lower lip ca. 4 mm, 3-lobed, all lobes depressed-semiorbicular. Stamens and staminodes adnate to corolla tube for ca. 14 mm above base, filaments linear-subulate, ca. 9 mm, geniculate near middle, minutely glandular; anthers fused by entire adaxial surfaces, oblong 3 mm, glabrous; staminodes 2, 4–5.5 mm. Disc annular, 0.8 mm. Pistil ca. 2.9 cm, sparsely minutely appressed puberulous; ovary linear, ca. 1.7 cm × 1.5 mm; style ca. 9 mm; stigma flabellate, ca. 3 × 5 mm, 2-parted nearly to base, lobes narrowly oblong.

This species is remarkable in its short, simple stem with a single leaf at its apex, in the depressed

semiorbicular involucre-like bracts, which closely surround the dense inflorescence of short-pedicelled flowers, in the short corolla limb, and in the stigma being large, and deeply 2-lobed (nearly to the base). On the basis of these diagnostic characters, this species can be distinguished from related species in *Chirita* sect. *Chirita*.

Chirita shouchengensis Z. Y. Li, sp. nov. (*Chirita* sect. *Gibbosaccus*). TYPE: China. Guangxi: Liuzhou, cultivated in Longtan Park, alt. 150 m, introduced from Shoucheng (25°11'N, 109°7'E), Youngfu County, cliff in the limestone hills, 250 m, 10 May 1993, *Xiong Shi 93-1* (holotype, PE).

A *C. bicolori* W. T. Wang in foliis 2–3 cm longis 0.5–1 cm latis, nervis lateralibus utrinsecus 2–3; cymis 1-floris, pedunculis 9–11 mm longis; calycis segmentis 10–12 mm longis, 1.6–1.8 mm latis; disco glabris differt.

Herbs perennial, stemless. Rhizome obconic, to 12 × 8 mm. Leaves more than 10, crowded at apex of rhizome, opposite, petiolate; blades oblanceolate, 2–3 × 0.5–1 cm, papery when dry, adaxial surface green, white puberulous, abaxial surface appressed white velutinous, base decurrent, margin entire, apex acute; lateral veins of 2 or 3 pairs, inconspicuous; petioles ca. 10 × 1–2 mm, velutinous. Inflorescence of 3–many cymes from the axils of the crowded leaves, each with 1 erect flower; peduncles 9–11 mm, densely puberulous; bracts 2, oblong-linear, 4–6 × ca. 1 mm, both surfaces densely puberulous; pedicels 7–11 mm, densely puberulous; calyx 5-lobed to base, each segment lanceolate-linear, 10–12 × 1.6–1.8 mm, outside puberulent, inside glabrous, margin entire, puberulent and puberulous, apex acuminate; corolla lilac purple, ca. 4.5 cm, outside sparsely puberulous, inside glabrous, tube ca. 3.3 cm, ca. 1.4 cm diam. at mouth, upper lip ca. 8 mm, 2-lobed, lower lip ca. 12 mm, 3-lobed, each orbicular; stamens 2, filaments lanceolate-linear, adnate for ca. 14 mm to corolla base, ca. 11 mm, ca. 1.2 mm wide basally, ca. 0.8 mm wide apically, geniculate above base, glabrous, anthers elliptic, ca. 4 mm, lanate; staminodes 2, linear, 3–4 mm, glabrous; disc annular, ca. 0.5 mm, glabrous; pistil ca. 3.4 cm, densely puberulous, ovary linear, ca. 12 × 1.9 mm, lower lobe of stigma linear to oblong, ca. 3.5 mm long, upper lobe 2-parted, each lobe linear-lanceolate, ca. 1 mm. Fruit unknown.

Distribution and ecology. Native to Guangxi at Shoucheng in Youngfu County, growing at 250 m, on a cliff in the limestone hills. Flowering is known from April to June.

One of the flowers on the holotype specimen appears to be abnormal, having only a single fertile stamen, associated with the two-lobed lower lip of the corolla, as well as the two unequal lobes of the lower stigma. One stigma lobe is triangular, 0.3 mm long, the other lobe is linear to oblong, and 1 mm long. A similar abnormal flower with a single fertile stamen was found in *Dayaoshania cotinifolia* W. T. Wang (Wang, 1983a).

Chirita shuii Z. Y. Li, sp. nov. (*Chirita* sect. *Chirita*). TYPE: China. Yunnan: Wenshan, S slope of Baozhushan, 2600 m, 27 July 1993, *Shui Yu-min* 00312 (holotype, PE).

A *C. urticifolia* Buchanan-Hamilton ex D. Don in caule et pedunculis glabris, calyce albi, corolla 5.9–6.1 cm longa, flavida differt.

Herbs perennial, caulescent. Rhizome 3–4 × 0.4–0.9 cm. Stem erect, 18–34 cm, to 7 mm diam., glabrous or subglabrous, unbranched or rarely branched with 3 or 4 nodes. Leaves opposite, 2 to 4 pairs at stem or branch apices; petiole 1.2–9.5 cm, glabrous or abaxially pilose; blade elliptic, broadly ovate or suborbicular, 2.5–21.4 × 2.5–11.2 cm, herbaceous when dry, apex acute or rounded, base unequal, one side cuneate, broadly cuneate to rounded, or auriculate, the other side narrowly cuneate to cuneate, rarely rounded, margin dentate or repand-crenate, adaxially appressed white puberulous, abaxially glabrous or puberulous around the veins; lateral veins 4–9 pairs. Inflorescences of axillary and pseudo-terminal cymes, each 1- or 2-flowered; peduncles 1–6 cm, glabrous; bracts opposite, ovate or lanceolate, 0.5–1.7 × 2–8 mm, ciliate; pedicels 3–5(–8.5) cm; calyx white, campanulate-tubular, 2.4–3 cm, pilose outside, inside glabrous, tube 1.3–1.9 cm, 5-lobed to the middle, posterior lobes 11–12 × 4–6 mm, anterior lobes ca. 8 × 2–5 mm, lobes ovate to lanceolate, apices cuspidate; corolla pale yellow with pale brown lines in throat, 5.9–6.1 cm, outside sparsely puberulous, inside glabrous; tube 4.2–4.5 cm, ca. 1.1 cm diam. at mouth; upper lip ca. 1.1 cm, lower lip ca. 1.6–1.7 cm; filaments lanceolate-linear, adnate for ca. 20 mm to corolla base, ca. 8 mm, geniculate at the middle, curved above, to 1.5 mm wide, glabrous, anthers ca. 4.5 mm, glabrous; staminodes 2, ca. 2.5 mm, glabrous; disc annular, ca. 1.8 mm, glabrous; pistil ca. 3.8 cm; ovary linear, dorsiventrally compressed, ca. 24 × 1.5 mm, glabrous, lower lip of stigma ca. 4 mm, 2-parted, lobes oblong. Capsules 14–18.5 × 0.25 cm, glabrous. Seeds brown, fusiform, ca. 0.6 mm, glabrous.

Distribution and ecology. Plants known only from the province of Yunnan at Wenshan, growing on the south slope of Baozhushan, a mountain overgrown with *Leptocanna chinensis* (Rendle) L. C. Chia & H. L. Fung (a rock-dwelling bamboo), on rocky cliffs or beside mountain streams under dense forest in gullies, at 2600–2850 m. Flowering specimens have been collected in July to September, and fruiting specimens from September to October. The species is named in honor of the collector of the type specimen.

Paratype. CHINA. Yunnan: Wenshan, S slope of Baozhushan, 2850 m, fruiting, 6 Oct. 1992, *Shui Yu-min* 00527 (PE).

Chirita skogiana Z. Y. Li, sp. nov. (*Chirita* sect. *Gibbosaccus*). TYPE: China. Gansu: Wenxian, Bikou (32°9'N, 105°1'E), ad scopulos in vallis, 900 m, 18 Apr. 1992, *Qin Hai-ning* 270 (holotype, PE).

Herba perennis. Rhizoma ca. 1.5 cm longum, apice ca. 6 mm crassum. Folia ca. 4, basalia, petiolata; laminae herbaceae, valde inaequilaterales ovatae vel ovato-ellipticae, 3–9 cm longae, 2–3.3 cm latae, apice acutiusculae, basi latere cuneatae altero latere rotundatae, margine repando-denticulatae, utrinque adpresse pilosellae (pilis 1–1.2 mm longis) et puberulae (pilis 0.2–0.5 mm longis), nervis lateralibus utrinsecus 3–4; petioli 2.5–3 cm longi, complanati, piloselli. Scapi 1–2, 6–8 cm alti; cymae semel ramosae, 1–2-florae; bractae oppositae, oblong-lanceolatae, 8–9 mm longae, 2 mm latae, apice acutiusculae, margin pauce denticulatae, utrinque adpresse puberulae; pedicelli 0.7–1 cm longi, piloselli. Calyx ad basin 5-sectus, segmentis elliptico-lanceolatis, paulo inaequalibus, 7–7.5 mm longis, 1.8–2.1 mm latis, apice acutis vel obtusis, supra basin 4–6-denticulatis, extus brunneis pilosellis, intus viridibus glabris. Corolla carnea, ca. 2.3 cm longa, extus glanduloso-puberula, intus ad basin pilosella; tubo subtubulari, ca. 12 mm longo, ore ca. 6 mm diam.; labio postico ca. 3 mm longo, 2-fido, labio antico 11 mm longo, 3-fido, lobis semiorbicularibus. Stamina 2, filamentis ca. 8 mm supra corollae basin insertis, ca. 8 mm longis, glabris, prope medium geniculatis; antheris ca. 3.5 mm longis, glabris; staminodia 2, supra corollae basin inserta, 6 mm longa, anguste linearia, ca. 1.5 mm longa, glabra, apice capitata. Discus annularis, ca. 0.5 mm altus. Pistillum ca. 11 mm longum; ovario lineari, ca. 6 mm longo, 1 mm lato, cum stylo basi puberulo et glandulose-puberulo; stigmatum lineari, ca. 1.8 mm longo, 1 mm lato, apice 2-lobulato. Capsulae juvenales lineares, ca. 11 mm longae.

Herbs perennial, stemless. Rhizome ca. 1.5 cm, apex ca. 6 mm diam. Leaves ca. 4, basal, petiole 2.5–3 cm, flattened, pilose; leaf blade strongly oblique, ovate to ovate-elliptic, 3–9 × 2–3.3 cm, herbaceous, both surfaces appressed pilose (hairs 1–1.2 mm) and puberulous (hairs 0.2–0.5 mm); base cuneate on one side, rounded on the other, margin repand denticulate, apex minutely acute; lateral veins 3–4 pairs. Cymes 1–2, 6–8 cm, 1 ×

branched, 1–2-flowered; bracts 2, opposite, oblong-lanceolate, $8\text{--}9 \times \text{ca. } 2$ mm, both surfaces appressed puberulous, margin sparsely denticulate, apex minutely acute; pedicel 0.7–1 cm, pilose. Calyx 5-sect, segments slightly unequal, elliptic-lanceolate, $7\text{--}7.5 \times 1.8\text{--}2.1$ mm; abaxial surface brown, pilose; adaxial surface green, glabrous; margin 4–6-denticulate above the base, apex acute to obtuse. Corolla fleshy, ca. 2.3 cm, abaxially glandular puberulous, adaxially pilose near base; tube subtubular, ca. 12 mm, mouth ca. 6 mm diam.; upper lip 2-lobed, ca. 3 mm; lower lip 3-lobed, ca. 11 mm, lobes semiorbicular. Stamens 2, adnate to corolla tube for ca. 8 mm; filaments ca. 8 mm, glabrous, geniculate near middle; anthers ca. 3.5 mm, glabrous. Staminodes 2, adnate to corolla tube for ca. 6 mm, linear, ca. 1.5 mm, glabrous, apex capitate. Disc ring-like, ca. 0.5 mm. Pistil ca. 1.1 cm; ovary linear, ca. 6×1 mm, puberulous and glandular puberulous; style base puberulous and glandular puberulous; stigma linear, ca. 1.8×1 mm, apex 2-lobed. Immature capsule linear, ca. 1.1 cm.

Distribution and ecology. This species is found only in the province of Gansu in Wenxian at Bikou, on a cliff in a valley, growing at 900 m elevation and flowering in April. The species is named in honor of Laurence E. Skog.

Chirita wangiana Z. Y. Li, sp. nov. (*Chirita* sect. *Gibbosaccus*). TYPE: China. Guangxi: Liuzhou, cultivated in Longtan Park conservatory, alt. 150 m, introduced from Rong-an, 15 July 1992, *Li Zhen-yu 11001* (holotype, PE).

A *C. sclerophyllae* W. T. Wang in foliis 2–4 cm longis 1.4–3.5 cm latis; cymis 1–3-floris, pedunculis 4–4.5 cm longis, flore nutanti; calycis segmentis ca. 3 mm longis, 0.8 mm latis; corolla intus glabra; filamentis ca. 5 mm supra basin corollae insertis; stigmatibus ca. 3 mm longo differt.

Herbs perennial, stemless. Rhizome terete, to 1.7 cm, 1 cm diam. Leaves to 24, crowded at apex of rhizome, opposite, petiolate; blades ovate or orbicular, $2\text{--}4 \times 1.4\text{--}3.5$ cm, thick papery when dry, adaxial surface dark green, shiny, abaxial surface purple, both sides sparsely appressed puberulous, base obtusely rounded or rounded, margin remotely repand-crenate, apex rounded, lateral veins 3–4 pairs, conspicuous; petioles $0.4\text{--}1.2 \times 0.3\text{--}0.4$ cm, abaxially densely villous. Inflorescences of ca. 4 cymes from the axils of the crowded leaves, each 1–3-flowered; peduncle 4–4.5 cm, densely purple puberulous and glandular puberulous; bracts 2, linear, $3\text{--}4 \times \text{ca. } 0.4$ mm, margin entire, purple glandular ciliate; pedicel ca. 3 mm, purple puberulent, glandular puberulous. Flowers nu-

tant; calyx 5-lobed to base, each segment lanceolate-linear, ca. 3×0.8 mm, puberulous outside, glabrous inside, margin entire, apex subulate-acuminate; corolla white, ca. 3.5 cm, sparsely puberulous and glandular puberulous outside, inside glabrous, tube ca. 2.5 cm, ca. 1 cm diam. at mouth, limb patent, interior surface purplish, upper lip ca. 5 mm, 2-lobed, each lobe broadly ovate, lower lip ca. 10 mm, 3-lobed, each lobe ovate, flat; stamens 2, filaments lanceolate-linear, adnate for 5 mm to the base of the corolla, ca. 14 mm, ca. 1 mm wide basally, ca. 0.2 mm wide apically, geniculate above base, glabrous, anthers ca. 3 mm, puberulous, staminodes 2, linear, ca. 4 mm, glabrous; disc annular, ca. 1 mm high, glabrous; pistil ca. 2.7 cm, densely puberulous and glandular puberulous, ovary linear, ca. 17×0.9 mm; lower lip of stigma obtrapezoidal, ca. 3 mm, 2-lobed, each lobe ovate-lanceolate. Fruit unknown.

Distribution and ecology. Plants only known from the province of Guangxi from which they were brought into cultivation. Flowering occurs at least in July. The species is named in honor of Wang Wen-tsai.

Didymocarpus subpalmatinervis W. T. Wang, sp. nov. TYPE: China. Yunnan: Y-dje, near Lou-lan, July 1909 (fl), *Fr. Ducloux 3711* (holotype, P).

Herba perennis, acaulescens. Rhizoma breve, radices 3–4 crassas edens. Folia basalia, ca. 4; laminae papyraceae, cordato-ovatae vel cordatae, 2–4.5 cm longae, 1.8–5.4 cm latae, basi cordatae, apice obtusae, margine obtuse dentatae vel duplicato-dentatae, supra dense adpresse puberulae, subtus ad nervos pilosae, nervis basalibus 3–4, lateralibus utrinsecus 3–4. Cymae ca. 2, bis ramosae, 2–10-florae; pedunculus 4.5–11 cm longus, puberulus; bractae 2–3, anguste lanceolatae vel lineares, 4–7 mm longae, 0.6–1.5 mm latae, puberulae; pedicelli 2.5–11 mm longi, puberuli. Calyx 5-sectus, segmentis linearitriangularibus, 5.2–7 mm longis, 1–1.2 mm latis, extus puberulis, intus glabris, apice attenuatis obtusiusculis. Corolla flava, 2–2.5 cm longa, extus dense puberula, intus ad lobos puberula; tubo infundibuliformi-cylindrico, 1.4–1.7 cm longo, supra basin leviter arcuato, ore 3–4 mm diam.; labio supero 3–4 mm longo, 2-lobato, labio infero 5–6 mm longo, 3-partito, lobis triangularibus. Stamina fertilia 2, corollae tubo 8–10 mm adnata; filamentis anguste linearibus, ca. 5.5 mm longis, minute puberulis; antheris ellipsoideis, ca. 1.5 mm longis, glabris; staminodia 2, corollae tubo ca. 6.5 mm adnata, filiformia, ca. 0.6 mm longa, glabra. Discus annularis, ca. 0.4 mm altus. Pistillum ca. 14 mm longum; ovario lineari, 4 mm longo, dense puberulo; stylo ca. 9 mm longo, sparse puberulo; stigmatibus depresso capitato, ca. 0.7 mm diam.

Perennial, stemless herb. Rhizome short, with ca. 3–4 robust roots. Leaves ca. 4; petiole flat $0.4\text{--}7.5 \times 0.15\text{--}0.3$ cm spreading pubescent; leaf blade ovate to obovate, $2\text{--}4.5 \times 1.8\text{--}5.4$ cm, papery, adax-

ially densely appressed puberulous, abaxially appressed puberulous, pilose on veins; base cordate, margin obtusely or doubly dentate, apex obtuse; basal veins 3–4, lateral veins 2–3 pairs. Cymes ca. 2, ca. 2 × branched, 2–10-flowered; peduncle 4.5–11 cm, puberulous; bracts 2–3, narrowly lanceolate or linear, 4–7 × 0.6–1.5 mm, puberulous, margin entire. Pedicel 2.5–11 mm, puberulous. Calyx actinomorphic, 5-sect or nearly so, segments linear-triangular, 5.2–7 × 1–1.2 mm, both surfaces puberulous; margin entire, apex attenuate. Corolla yellow, 2–2.5 cm, outside densely puberulous, lobes puberulous inside; tube funnelform-cylindric, 1.4–1.7 cm, slightly arcuate-curved above base, mouth 3–4 mm diam., upper lip 3–4 mm, 2-lobed, lower lip 5–6 mm, 3-lobed, all lobes triangular. Stamens 2, adnate to corolla tube for 8–10 mm above base, ca. 7 mm; filaments linear, minutely puberulous; anthers ellipsoid, ca. 1.5 mm, glabrous; staminodes 2, adnate to corolla tube for ca. 6.5 mm above base, filiform, ca. 0.6 mm, glabrous. Disc annular, 0.4 mm. Pistil ca. 14 mm; ovary linear, ca. 4 × 0.5 mm, densely puberulous; style ca. 9 mm, sparsely puberulous; stigma depressed capitate, ca. 7 mm diam.

This species is most similar to *Didymocarpus heucherifolius*, from which it can be distinguished by its smaller leaves (3–9 × 3.5–11 cm in *D. heucherifolius*), calyx 5-sect or nearly so (unequally 5-lobed in *D. heucherifolius*), yellow corolla (red in *D. heucherifolius*), shorter corolla tube (1.4–1.7 cm in *D. subpalmatinervis* vs. 1.8–2.2 cm in *D. heucherifolius*), and glabrous anthers (anthers puberulous in *D. heucherifolius*).

Hemiboea subcapitata C. B. Clarke var. **guangdongensis** (Z. Y. Li) Z. Y. Li, comb. nov. Basionym: *Hemiboea henryi* C. B. Clarke var. *guangdongensis* Z. Y. Li, as “*guandongensis*,” *Acta Phytotax. Sin.* 25: 225. 1987. TYPE: China. Cultivated at the South China Institute of Botany, introduced from N Guangdong, W. T. Wang 83-3 (holotype, PE).

Because *Hemiboea henryi* is included as a synonym of *H. subcapitata* in the *Flora of China* treatment, this new combination is needed.

Hemiboea wangiana Z. Y. Li, sp. nov. (*Hemiboea* C. B. Clarke sect. *Hemiboea*). TYPE: China. Yunnan: Gejiu, Man-Hao, Qingshushe, 280 m, 24 Dec. 1993, Shui Yu-min 004004 (holotype, PE).

A *H. gamosepala* Z. Y. Li in bracteas ca. 1 cm diam., calyce ca. 2.5 cm longo, corolla alba, pistillo ca. 2.6 cm differt.

Herbs perennial, caulescent. Stolons unknown. Stems up to 60 cm, 5 mm diam., branched, with 7 to many nodes, dark purple spotted, glabrous. Petiole 0.5–4 cm, glabrous, not winged, free at base; leaf blade ovate to elliptic, 3–10 × 1–4 cm; herbaceous when dry, adaxial surface dark green, abaxial surface pale green, glabrous; base oblique, cuneate to rounded; margin repand, serrulate, or subentire; apex cuspidate or acuminate; sclereids surrounding vascular bundles vermiform and bacilliform; lateral veins 5–8 pairs. Inflorescences pseudoterminal cymes, 3(or 2)-flowered; peduncles 0.6–1.2 cm, glabrous; involucre globose, apex subulate, ca. 1 cm diam., pale green, glabrous; pedicel 3–4 mm, glabrous. Calyx white, ca. 2.5 cm, connate for ca. $\frac{3}{4}$, lobes ovate-triangular, 3–4 × 2–3 mm, membranaceous, glabrous. Corolla white, upper side purple spotted, 3.7–4.1 cm, tube 2.8–3 cm, 1.1–1.2 cm diam. at mouth, outside sparsely glandular puberulous, inside with a ring of hairs 5–8 mm above the tube base, upper lip 6–7 mm, 2-lobed, lobes broadly ovate, lower lip 9–11 mm, 3-lobed, lobes ovate. Stamens 2; filaments adnate to the corolla base for ca. 14 mm, linear, 14–15 mm; anthers ovate to orbicular, ca. 2.5 mm, coherent adaxially; staminodes 2, ca. 8 mm. Disc ca. 1.8 mm. Pistil ca. 2.6 cm, glabrous; ovary linear-lanceolate, ca. 9 × 1.8 mm; stigma subcapitate.

Hemiboea wangiana is related to *H. gamosepala* Z. Y. Li, but it is distinguished by having a smaller involucre (ca. 1 cm vs. 1.8–2.3 cm diam.), a larger calyx (ca. 2.5 cm vs. 1.4–1.6 cm), a white corolla (vs. pink), and a longer pistil (ca. 2.6 vs. ca. 1.5 cm). The species is named in honor of Wang Went sai.

Distribution and ecology. On streamside rocks. Altitude ca. 280 m.

Lysionotus microphyllus W. T. Wang var. **omeiensis** (W. T. Wang) W. T. Wang, comb. et stat. nov. Basionym: *Lysionotus omeiensis* W. T. Wang, *Guihaia* 3: 271, pl. 1, figs. 1–2. 1983. TYPE: China. Sichuan: Emei shan, Hongchun ping, Yu'anfeng, 20 Sep. 1952, J. H. Xiong, X. S. Zhang & X. L. Jiang 32767 (holotype, SZ).

When W. T. Wang described *Lysionotus microphyllus* and *L. omeiensis* (Wang, 1983b), he stated that the two species are “very closely related.” Both taxa are small shrubs with very small leaves (8.5–11 × 5–6 mm). We now consider these taxa to belong to a single species with two varieties, which can be distinguished by the following key:

- 1a. Leaves opposite, in whorls of 3, or alternate; leaf blade glabrous on both surfaces, margin 1–3-denticulate; calyx ca. 1.5 mm, segments triangular var. *microphyllus*
- 1b. Leaves opposite or alternate; leaf blade adaxially puberulous near margin, abaxially glabrous, margin 1–2-crenate or subentire; calyx ca. 4 mm, segments triangular-linear var. *omeiensis*

Lysionotus pauciflorus Maximowicz var. **ikedae** (Hatusima) W. T. Wang, comb. et stat. nov. Basionym: *Lysionotus ikedae* Hatusima, Mem. Fac. Agric. Kagoshima Univ. 7: 324, pl. 1. 1970. TYPE: China. Taiwan: Botel Tobago Island (Kôtôsyo or Lanyu Island), 1968, *G. Ikeda* 2246 (holotype, herbarium not indicated, not seen).

Hatusima (1970) suggested that *Lysionotus ikedae* was most closely related to *L. brachycarpus* Rehder (currently a synonym of *L. heterophyllus* Franchet). He also compared his species to *L. pauciflorus*, which he thought had narrower leaves and larger flowers. Upon careful examination of *L. pauciflorus* from throughout its range, it is clear that several species and varieties of *Lysionotus* D. Don recognized in Wang et al. (1990: *L. carnosus* Hemsl., *L. hainanensis* Merrill & W. Y. Chun, *L. montanus* Kao & Devol, *L. pauciflorus* var. *lancifolius* W. T. Wang, *L. pauciflorus* var. *latifolius* W. T. Wang, and *L. pauciflorus* var. *linearis* Rehder) fit in a continuum of variation, which we now recognize as *L. pauciflorus* var. *pauciflorus*. According to the description of *L. ikedae*, it fits well into *L. pauciflorus*, but it has the otherwise unknown character of corolla basally puberulous outside. Since none of us has seen this character in any other specimen of *L. pauciflorus*, we have chosen to give this taxon varietal status. We have not been able to obtain the type for study.

Opithandra burttii W. T. Wang, sp. nov. TYPE: China. Jiangxi: Longnan, Linwu Village, Mt. Wuzhishan, on rocks in forests, 1–25 Oct. 1934 (fl), *S. K. Lau* 4622 (holotype, GH; isotypes, BM, IBSC, US).

Herba perennis, acaulescens. Rhizoma teres, ca. 2 cm longum. Folia basalia, ca. 10, interiora sessilia, exteriora breviter longeve petiolata; laminae papyraceae, ellipticae vel oblongae, 2.5–8 cm longae, 1.7–4 cm latae, basi subcordatae, apice obtusae vel rotundatae, margine crenulatae, supra dense albo-puberulae, subtus adpresse puberulae et ad nervos brunneo-sericeo-lanatae, nervis lateralibus utrinsecus 6–8; petioli robusti, 0.5–5.4 cm longi, brunneo-sericeo-lanati. Cyma ca. 1, semel vel bis ramosa, 2–7-flora; pedunculus 2–6 cm longus, puberulus; bractae 2, oppositae, lineares, ca. 3 mm longae, 0.7 mm latae, sparse puberulae; pedicelli 3–12 mm longi, pubes-

centes. Calyx 5-sectus, segmentis linearibus, 3.5–3.8 mm longis, ca. 1 mm latis, extus puberulis intus glabris apice obtusiusculis. Corolla purpurea, 1.6–2.2 cm longa, extus sparse puberula, intus glabra; tubo tubulari, 10–14 mm longo, ore ca. 3.5 mm diam.; labio supero 4–6 mm longo, 2-lobato, labio infero 5–7 mm longo, 3-lobato. Stamina corollae tubo 5–7 mm adnata, glabra; filamentis anguste linearibus, 3.5–5.5 mm longis; antheris liberis, oblongis, ca. 2 mm, glabris; staminodia nulla. Discus annularis, ca. 0.8 mm altus. Pistillum ca. 6.5 mm longum, glabrum; ovario ca. 5 mm longo; stylo 1 mm longo; stigmatibus 2, ca. 0.5 mm longis.

Herbs perennial, acaulescent. Rhizome terete, ca. 2 cm. Leaves basal, ca. 10, innermost sessile, outer ones short-petiolate, petiole robust, 0.5–5.4 cm, brownish sericeous-lanate; lamina elliptic to oblong, 2.5–8 × 1.7–4 cm, papery, upper surface densely white puberulous, lower surface appressed puberulous between veins and brown sericeous-lanate mainly on veins; base subcordate, apex obtuse to rounded, margin crenulate; lateral veins 6–8 pairs. Cyme ca. 1, 1 or 2 × branched, 2–7-flowered; peduncle 2–6 cm, puberulous; bracts 2, opposite, linear, ca. 3 × 0.7 mm, sparsely puberulous; pedicel 3–12 mm, pubescent. Calyx 5-sect, segments linear, 3.5–3.8 × ca. 1 mm, outer surface puberulous, inner surface glabrous, apex minutely obtuse. Corolla purple, 1.6–2.2 cm, outer surface sparsely puberulous, inside glabrous, tube tubular, 10–14 mm, mouth ca. 3.5 mm diam., upper lip 2-lobed, 4–6 mm, lower lip 3-lobed, 5–7 mm. Stamens adnate to corolla tube for 5–7 mm, glabrous; filaments narrowly linear, 3.5–5.5 mm, anthers free, oblong, ca. 2 mm, with straight slits; staminode absent. Disc ring-like, ca. 0.8 mm. Pistil ca. 6.5 mm, glabrous; ovary ca. 5 mm, style ca. 1 mm, stigmas 2, ca. 0.5 mm.

This species was suggested and included in a key by Burt (1958) as "*Opithandra* sp. nov.?" based on the same collection. Based on the duplicates that we have seen, it clearly is a different species, related to *Opithandra sinohenryi*, but differs from it in having brown sericeous-lanate indument mainly or only on the veins, a smaller calyx, the corolla glabrous inside, and staminode absent. The species is named in honor of B. L. Burt.

Oreocharis aurea Dunn var. **cordato-ovata** (C. Y. Wu ex H. W. Li) K. Y. Pan, A. L. Weitzman & L. E. Skog, comb. et stat. nov. Basionym: *Oreocharis cordato-ovata* C. Y. Wu ex H. W. Li, Bull. Bot. Res., Harbin 3(2): 7, photo. 4. 1983. TYPE: China. Yunnan: Si-chou-hsien [Xichou], Shiang-pyng shan [Xiangpingshan], 1400–1500 m, ad saxas prope fluminem, floribus aureis, 29 Aug. 1947, *K. M. Feng* 11432 (holotype, KUN; isotypes, A, KUN, PE, SCBI).

Oreocharis cordato-ovata is very closely related to *O. aurea*. The characters that differentiate them are leaf blade and margin shape and calyx segment margin shape (leaf blade cordate-ovate, margin crenate; calyx lobes entire in the former vs. leaf blade elliptic-ovate, margin doubly serrate; calyx lobes 2–3-dentate near apex in the latter). The leaf blade shape is very similar on the specimens of the two species, and we have seen overlap in this character. Indeed, the only character that clearly separates them is the denticulate calyx segments in *O. aurea*. For this reason we now recognize *Oreocharis cordato-ovata* as a variety of *O. aurea*.

Oreocharis dentata A. L. Weitzman & L. E. Skog, sp. nov. TYPE: China. W Sichuan: Sep. 1908, *E. H. Wilson 2256* (holotype, GH; isotypes, K, US). Figure 1.

Ab *Oreochari aurantiaca* Franchet in foliis late ovatis vel fere rhombeis et bracteis persistentis, differt.

Herbs, perennial, stemless, subrhizomatous, rhizome ca. 7 mm diam. Leaves up to 15, basal; petiole to 3.7 cm, epidermis drying green, densely red-brown long-villous; leaf blade broadly ovate to nearly rhombic, 2.5–6 × 2–4.8 cm; epidermis drying green, adaxially densely whitish pubescent to villous; abaxially red-brown villous to woolly, hairs longer on veins; base sometimes slightly oblique, cuneate to cordate, margin coarsely dentate to coarsely crenate or serrate, sometimes also denticulate, apex acute, rarely to rounded, lateral veins 5 or 6 pairs, distinct. Cymes unbranched or 1 × branched, lax, 1–4-flowered; peduncle 4–9 cm, epidermis drying reddish brown, translucent to golden villous; bracts 2, narrowly triangular, 3–5 × ca. 1 mm, villous to densely pubescent, margin entire. Pedicel 1.1–2 cm, epidermis drying reddish brown, translucent to golden villous. Calyx drying purplish near margin, actinomorphic, 5-sect from base, segments equal, narrowly triangular, 4–6 × 1–1.5 mm, outside densely villous, inside sparsely villous, margin entire. Corolla drying orange, lobes red, zygomorphic, 1.9–2.4 cm; outside densely glandular pubescent, especially on lobes, inside glabrous, tube cylindrical, slightly gibbous on adaxial side, narrowing slightly toward throat, 1.5–1.8 × 0.4–0.7 cm; limb 2-lipped, adaxial lip shallowly 2-lobed, lobes oblong, 3–4 × ca. 2 mm, apex rounded; abaxial lip deeply 3-lobed, lobes unequal, central lobe lanceolate, ca. 7.5 × 2 mm, lateral lobes oblong, ca. 6 × 2.5 mm, apex rounded. Stamens 4, adnate to 7–12 mm above corolla base, 7–8 mm; filaments slender, glabrous or pubescent; anthers basifixed, free,

broadly oblong, 2.5–3 mm, 2-loculed, thecae parallel, not confluent, dehiscing longitudinally, connective not projecting, glabrous or pubescent; staminode 1, adnate to adaxial side of corolla tube, ca. 1.2 mm. Disc ringlike, ca. 2 mm, 5-lobed, undulate. Pistil drying purplish, ca. 1.3 cm, glabrous; ovary narrowly oblong, ca. 9 × 2 mm; stigma 1, disc-shaped. Capsule fusiform, 2.8–4 × 0.3–0.4 cm. Flowering in September.

This new species, *Oreocharis dentata*, differs from all other species of *Oreocharis* in the combination of its moderately small, broadly ovate to nearly rhombic leaf blade, margin coarsely dentate (or coarsely crenate to serrate), few-flowered cymes, and stamens adnate to near the middle of the corolla tube. It is most similar to *O. aurantiaca* (which includes *O. cordatula* (Craib) Pellegrin and *O. minor* (Craib) Pellegrin in the opinion of Weitzman and Skog but will be recognized in the *Flora of China* according to the preferences of the Chinese author), but it differs in the broadly ovate to nearly rhombic leaf blade (narrowly ovate or rhombic-ovate to narrowly elliptic or lanceolate in *O. aurantiaca*) and persistent bracts (deciduous in *O. aurantiaca*).

Paraboea glutinosa (Handel-Mazzetti) K. Y. Pan, comb. nov. Basionym: *Boea glutinosa* Handel-Mazzetti, *Sinensia* 7: 620. 1936. TYPE: China. Guangxi: Nee Pai [Ni-bai], border with Guizhou, 700 m, 29 June 1928, *R. C. Ching 6317* (holotype, WU not seen; photo at US).

This species belongs in *Paraboea* because of its 4-valved capsules and branching, interwoven, woolly indument. *Boea*, as currently delimited, has 2-valved capsules and variable indumentum that does not branch and is not interwoven and woolly.

Paraisometrum W. T. Wang, gen. nov. TYPE: *Paraisometrum mileense* W. T. Wang. Figure 2.

Herbae perennes, acaulescentes, rhizomatibus brevibus. Folia omnia basalia, petiolata, elliptica, margine denticulata, penninervia. Cymae axillares, longe pedunculatae, pauciflorae, 2-bracteatae. Calyx campanulatus, 5-sectus. Corolla bilabiata, tubo infundibuliformi-tubulari limbo multo longiore; labio supero inaequaliter 4-lobato, lobis triangularibus, interioribus 2 minoribus, exterioribus 2 majoribus; labio infero indiviso deltato-ovato. Stamina fertilia 4, inclusa, leviter supra corollae tubi medium adnata; filamentis anguste linearibus; antheris per paria cohaerentibus, ellipsoideis, thecis parallelis; staminodium dorsali-medianum, parvum supra corollae basin adnatum, anguste lineare. Discus annularis. Pistillum inclusum, ovario lineari, placentis parietalibus duabus intrusis deinde valde divaricatis ovuligeris, stylo brevi, stigmatibus parvis depresso capitato.

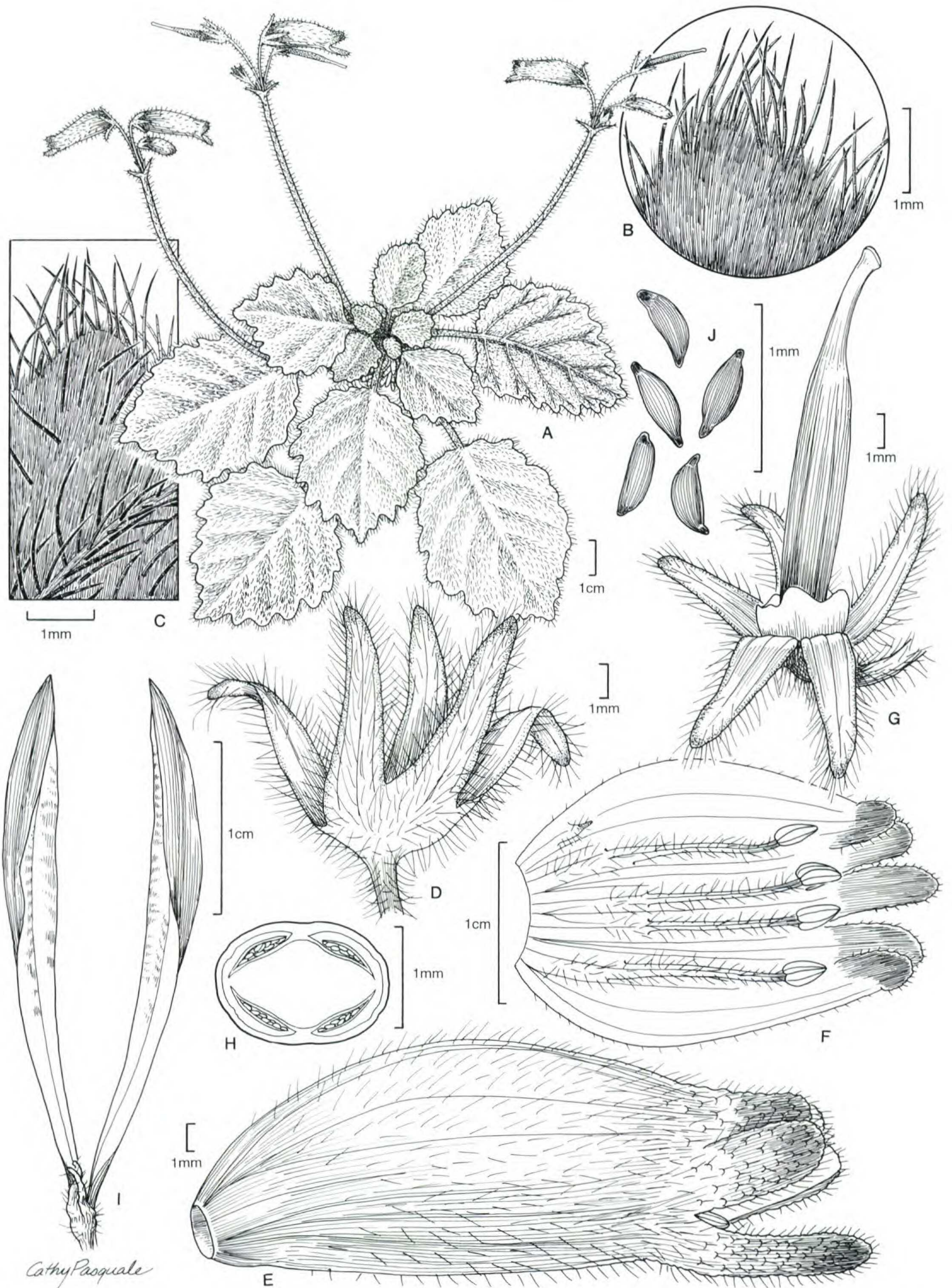


Figure 1. *Oreocharis dentata* A. L. Weitzman & L. E. Skog. —A. Habit. —B. Upper leaf surface. —C. Lower leaf surface. —D. Calyx. —E. Corolla exterior. —F. Opened corolla with stamens and staminode. —G. Pistil with calyx and disc. —H. Capsule cross section. —I. Dehiscent capsule. —J. Seeds. (All from *Wilson 2256*.)

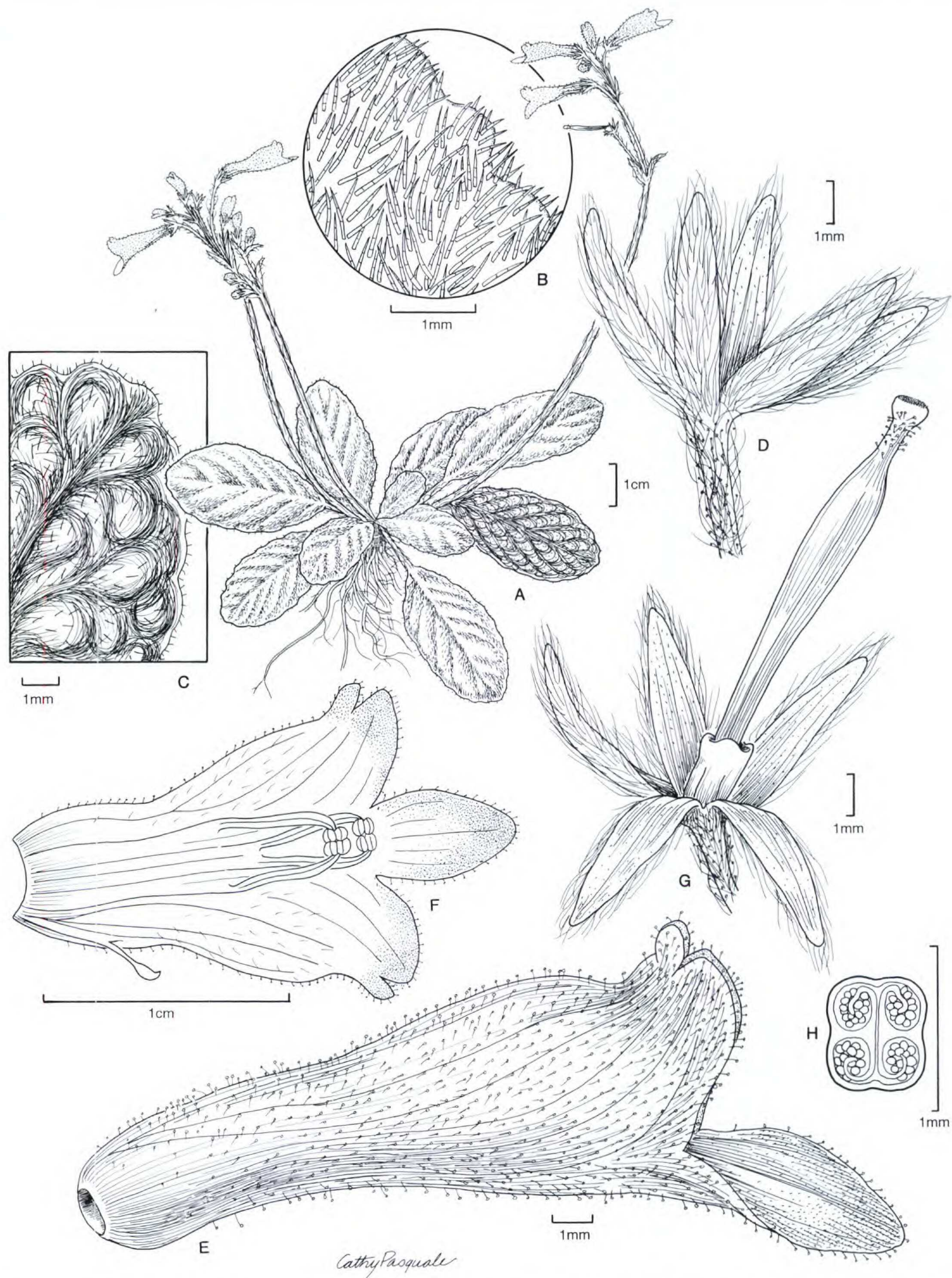


Figure 2. *Paraisometrum mileense* W. T. Wang. —A. Habit. —B. Upper leaf surface. —C. Lower leaf surface. —D. Calyx. —E. Corolla exterior. —F. Opened corolla with stamens and staminode. —G. Pistil with calyx and disc. —H. Young fruit cross section. (All from *F. Ducloux 4151*.)

Herbs, perennial, stemless. Rhizome short. Leaves basal, petiolate, elliptic, margin denticulate, pinnately veined. Cymes axillary, long pedunculate, few-flowered, bracts 2, opposite. Calyx actinomorphic, campanulate, 5-sect. Corolla bilabiate, tube infundibuliform-tubular, longer than limb, upper lip unequally 4-lobed, lobes triangular, central 2 smaller than outer 2; lower lip undivided, deltate-ovate. Fertile stamens 4, included, adnate to above the middle of corolla tube; filaments narrowly linear, anthers coherent in pairs by their adaxial surfaces, thecae parallel; staminode 1, adnate to above the base of the upper-central side of corolla tube, narrowly linear. Disc ring-like. Pistil included, ovary linear, 1-loculed; placentas 2, parietal, projecting inward, 2-cleft; style short, stigma 1, small, depressed-capitate.

One species, restricted to southeastern Yunnan, China.

Paraisometrum appears most closely related to *Isometrum*. Both genera share the presence of 4 fertile stamens, the corolla limb much shorter than the corolla tube, and the 5 corolla lobes nearly equal in length. The genus *Isometrum* is restricted to southwestern and central China. *Paraisometrum* differs from *Isometrum* in its corolla with a 4-lobed upper lip and an undivided lower lip, stamens that are adnate to above the middle of the corolla tube, and the pistil with one stigma.

***Paraisometrum mileense* W. T. Wang, sp. nov.**

TYPE: China. Yunnan: Mile Xian, Lau-kouy chan, 9 Feb. 1906, *F. Ducloux 4151* (holotype, P). Figure 2.

Herba perennis. Rhizoma breve, 0.5–1 cm crassum. Folia basalia, 7–10; laminae ellipticae vel oblongo-ellipticae, 2–4.8 cm longae, 1.2–1.8 cm latae, coriacea, supra dense adpresse albo-pubescentes, subtus brunneolo-lanatae, nervis lateralibus utrinsecus 5–6, supra impressis, subtus promulis, basi cuneatae vel obtusae, margine obtuse denticulatae, apice obtusae vel rotundatae. Cymae 1–3, semel vel bis ramosae, 3–8-florae; pedunculus 6.5–12 cm longus, dense brunneolo-pubescentis; bractae 2, oppositae, lanceolato-lineares, 7–10 mm longae, 1.2–3 mm latae, extus brunneolo-lanatae, intus glabrae; pedicelli 0.6–2.2 cm, puberuli et glanduloso-puberuli. Calyx 5-sectus, segmentis lanceolato-linearibus, 3–5.2 mm longis, 0.8–1 mm latis, extus dense puberulis, intus glabris, apice acutis. Corolla purpurea, 1.6–1.8 cm longa, extus glanduloso-puberula, intus ad lobos dense minuteque puberula; tubo 1.3–1.4 cm longo, ore 3.5–5 mm diametro; labio supero 3–4 mm longo, 8.5 mm lato, lobis interioribus 2 ca. 1.2 mm longis, 1 mm latis, exterioribus 2 ca. 1.6 mm longis, 2 mm latis; labio infero ca. 2.2 mm longo, 3 mm lata. Stamina corollae tubo ca. 9 mm adnata, glabra; filamentis ca. 5 mm longis; antheris ca. 0.8 mm longis; staminodium corollae tubo ca. 2.2 mm adnatum, ca. 0.8 mm longum, glabrum. Pistillum ca. 10 mm longum, gla-

brum; ovario ca. 9 mm longo, 1 mm lato; stylo ca. 1 mm longo; stigmatibus parvis.

Herbs perennial, stemless, short rhizomatous. Leaves basal, 7–10; petiole 0.2–4.2 cm, brownish lanate; leaf blade elliptic to oblong-elliptic, 2–4.8 × 1.2–1.8 cm, leathery, adaxially densely appressed white pubescent, abaxially densely brownish lanate; base cuneate to broadly cuneate, margin obtusely denticulate, apex obtuse to rounded; lateral veins 5 or 6 pairs, adaxially impressed, abaxially slightly prominent. Cyme 1–3, branched 1 or 2 ×, 3–8-flowered; peduncle 6.5–12 cm, densely brownish pubescent; bracts lanceolate-linear, 7–10 × 1.2–3 mm, outside densely brownish lanate, inside glabrous. Pedicel 0.6–2.2 cm, puberulous and glandular-puberulous. Calyx segments lanceolate-linear, 3–5.2 × 0.8–1 mm, outside densely puberulous, inside glabrous, apex acute. Corolla purple, 1.6–1.8 cm, outside glandular-puberulous, inner surface of lobes densely minutely puberulous; tube funnelform-tubular, 1.3–1.4 cm, mouth 3.5–5 mm diam.; upper lip 3–4 × ca. 8.5 mm, 4-lobed, lobes triangular, central 2 smaller, ca. 1.2 × 1 mm, lateral 2 larger, ca. 1.6 × 2 mm; lower lip undivided, deltoid, ca. 2.2 × 3 mm. Stamens adnate for 9–10 mm above corolla base, glabrous; filaments narrowly linear, ca. 5 mm; anthers coherent in pairs, ellipsoid, ca. 0.8 mm; staminode adnate for ca. 2.2 mm above corolla base, filiform, ca. 0.8 mm, glabrous. Pistil ca. 10 mm, glabrous; ovary linear, ca. 9 × 1 mm; style ca. 1 mm; stigma depressed-capitate.

***Tengia scopulorum* W. Y. Chun var. *potiflora* (S.**

Z. He) W. T. Wang, A. L. Weitzman & L. E. Skog, comb. et stat. nov. Basionym: *Tengia potiflora* S. Z. He, in S. Z. He & X. D. Cong, *J. China Pharm. Univ.* 23: 269. 1992. TYPE: China. Guizhou: Xiuwen Xian, Maochong, 1200 m, 22 July 1991, S. Z. He 91052 (holotype, HGCM; isotype, PE).

Ecology. On limestone cliffs. Altitude ca. 1200 m.

This plant differs from *Tengia scopulorum* var. *scopulorum* in several characters; however, in our opinion the differences are not enough to merit species rank. The differences are summarized in the following key:

- 1a. Corolla white or pink, 5–7 mm, tube 3.8–4 mm, lobes 1.2–3 mm; style 4–5 mm . . . var. *scopulorum*
- 1b. Corolla purple, 10.3–11.3 mm, tube 9–10 mm, lobes ca. 1.3 mm; style 7–9 mm . . . var. *potiflora*

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Literature Cited

Brown, R. 1839. On Cyrtandrae, from Dr. Horsfield's "Plantae javanicae rariores," Plate 24, pages 1–2; Plate 25, pages 105–122.—A preprint of two plates with text

by Bennett and Brown, *Plantae javanicae rariores*. Richard & John E. Taylor, London.

Burt, B. L. 1958. Studies in the Gesneriaceae of the Old World XII: *Opithandra*, a genus with sterile anticous stamens. *Notes Roy. Bot. Gard. Edinburgh* 22: 301–303.

———. 1992. Introduction. Pp. 5–6 in W. T. Wang, K. Y. Pan & Z. Y. Li, *Keys to the Gesneriaceae of China*. *Edinburgh J. Bot.* 49: 5–74.

Hatusima, S. 1970. An enumeration of the plants collected by G. Ikeda in Botel Tobago Island. *Mem. Fac. Agric. Kagoshima Univ.* 7: 295–341.

Wang, W. T. 1983a. Duo Genera Nova Gesneriacearum e Sina. *Acta Phytotaxonomica Sinica* 21: 319–324.

———. 1983b. Revisio Lysionoti Sinici (Gesneriaceae). *Guihaia* 3: 249–284.

———, K. Y. Pan & Z. Y. Li. 1990. Gesneriaceae. Pp. 125–581 in *Flora Reipublicae Popularis Sinicae*, Vol. 69. Science Press, Beijing.